

REMARKS

Upon entry of the Amendment, Claims 1-5 are pending in the application. Claim 1 has been amended.

Claim 1 has been amended to address the 35 U.S.C. § 112 rejection issue raised in the present office action in an effort to reduce the number of issues of appeal. In particular, claim 1 has been amended to delete the recitation of wherein the second permeation-side passage material is different from the first permeation-side passage material.

No new matter is added. Entry of the Amendment is respectfully requested.

I. Response to Claims Rejection under 35 U.S.C. § 112

Claim 4 stands rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner asserts that claim 4 fails to further limit claim 1 from which it depends.

Claim 4 recites that the spiral separation membrane element as claimed in claim 1, wherein the first permeation-side passage material is monolithic with the second permeation-side passage material.

Without acquiescing the merits of the rejection, independent claim 1 has been amended to delete the recitation of wherein the second permeation-side passage material is different from the first permeation-side passage material.

Withdrawal of claim rejection to claim 4 under 35 U.S.C. § 112 is respectfully requested.

II. Objection to Claims 1 and 5

The Examiner asserts that should claim 1 be found allowable, claim 5 will be objected to under 37 C.F.R. § 1.75 as being a substantial duplicate thereof.

Claim 5 recites that the spiral separation membrane element as claimed in claim 1, wherein the first permeation-side passage material is separated from the second permeation-side passage material.

Without acquiescing the merits of the rejection, claim 1 has been amended to delete the recitation of wherein the second permeation-side passage material is different from the first permeation-side passage material.

Withdrawal of the present double patenting rejection is respectfully requested. Applicants respectfully submit that claims 1 and 5 are not substantial duplicates thereof.

III. Response to Claim Rejection under 35 U.S.C. § 103

Claims 1-5 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over WO 02/051528 to De La Cruz (“Cruz ‘528”) in view of Schmidt (US 6,352,641; “Schmidt”).

Applicants respectfully traverse the rejection.

Cruz ‘528 is relied upon to teach low pressure drop spiral wound modules for applications such as reverse osmosis or ultrafiltration as claimed in the instant application. It is the Examiner’s position that the first permeate side passage material in Cruz ‘528 is integral with the separation membrane (membrane is coated on it). The second permeate side passage material, which is wrapped around the core tube, is separate from the permeate side passage material.

Schmidt is relied upon as teaching a spiral wound element. The Examiner asserts that Figure 2 of Schmidt shows multiple wraps of the permeate spacer material around the core as claimed - the first and second permeate-side passage material is the same, or monolithic.

The Examiner acknowledges that Cruz '528 and Schmidt do not disclose or teach the recitation that the effective perforated-part area as calculated by multiplying the total area of the perforations in the perforated cored tube by the percentage of openings in one layer of the second permeation-side passage material is at least 1.0 time the inner cross-sectional area of the core tube. However, the Examiner asserts that this limitation is a result effective variable, which can be optimized. To support his position, the Examiner cites Haq (US 6,702,941), at Col. 26, lines 34-55. The Examiner asserts that Haq discloses that perforated area should be at least equal to the cross-sectional area of the inlet tube to avoid perforations restricting the flow. See Office Action, page 4, last paragraph.

Applicants respectfully disagree.

Specifically, the cited passage of Haq discloses that in order to prevent the perforations from acting as a flow restriction during dead end filtration, the total area of the perforations 71 is preferably at least as large as the cross-sectional area of the portions of the upper end face of the filter pack 20. Col. 26, lines 47-51. This is not a disclosure of the effective perforated-part area as calculated by multiplying the total area of the perforations in the perforated cored tube by the percentage of openings in one layer of the second permeation-side passage material is at least 1.0 time the inner cross-sectional area of the core tube, as recited in present claim 1. Also, the cited passage of Haq is not a disclosure that the effective perforated-part area is a result effective variable.

Applicants respectfully submit that Haq does not calculate the effective perforated-part area by multiplying the total area of the perforations in the perforated cored tube by the percentage of openings in one layer of the second permeation-side passage material.

None of the cited reference discloses or suggests the recitation effective perforated-part area as calculated by multiplying the total area of the perforations in the perforated cored tube by the percentage of openings in one layer of the second permeation-side passage material is at least 1.0 time the inner cross-sectional area of the core tube. In addition, there is no disclosure in the cited reference itself, Cruz '528 or Schmidt, that teaches or suggests the effective perforated-part area is a result effective variable.

In view of the above, Applicants request reconsideration and withdrawal of the present §103 rejection of claims 1-5.

IV. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Yan Lan
Registration No. 50,214

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON DC SUGHRUE/265550

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CUSTOMER NUMBER

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